WESTON SM

APPENDIX B

DPO REPORT

WESTON SM

DPO: [ ] ACTION [X] FYI Region III

INORGANIC REGIONAL DATA ASSESSMENT SUMMARY

CASE NO: SAS DE13
SDG NO: DT3719
SOW: 7/88
NO. OF SAMPLES: 7

LABORATORY: DE Div. of Water Quality
DATA USER: Charles Sands
REVIEW COMPLETION DATE: 1/26/90
MATRIX: Aqueous

REVIEWER: ESAT

	ICP	AA	Hg	CYANIDE
1. HOLDING TIMES	_O_	_O_	_O_	_O_
2. INITIAL CALIBRATIONS	_O_	_O_	_O_	_O_
3. CONTINUING CALIBRATIONS	_O_	_O_	_O_	_O_
4. FIELD BLANKS(F=NOT APPLICABLE)	_F_	_F_	_F_	_F_
5. LABORATORY BLANKS	_M_	_O_	_O_	_O_
6. ICS	_O_			
7. LCS	_O_	_O_		
8. DUPLICATE ANALYSIS	_O_	_O_	_O_	_O_
9. MATRIX SPIKE	_O_	_O_	_O_	_O_
10. MSA		_O_		
11. SERIAL DILUTION	_O_			
12. SAMPLE VERIFICATION	_O_	_O_	_O_	_O_
13. REGIONAL QC(F-NOT APPLICABLE)	_F_	_F_	_F_	_F_
14. OVERALL ASSESSMENT	_M_	_M*_	_O_	_O_

O = No problems or minor problems that do not affect data usability
X = No more than about 5% of the data points are qualified as either estimated or unusable.
M = More than about 5% of the data points are qualified as estimated.
Z = More than about 5% of the data points are qualified as unusable.
A = DPO action requested; use in conjunction with one of the above codes.

DPO ACTION ITEMS: _____

AREAS OF CONCERN: Documentation attached. (See following page). _____
*See explanation on page 3 under note #2.

WESTON SM

DPO: [ ] ACTION [X] FYI Region III

INORGANIC REGIONAL DATA ASSESSMENT SUMMARY

CASE NO: SAS DE13
SDG NO: DT3719
SOW: 7/88
NO. OF SAMPLES: 13

LABORATORY: DE Div. of Water Quality
DATA USER: Charles Sands
REVIEW COMPLETION DATE: 1/26/90
MATRIX: Soil

REVIEWER: ESAT

	ICP	AA	Hg	CYANIDE
1. HOLDING TIMES	_O_	_O_	_O_	_O_
2. INITIAL CALIBRATIONS	_O_	_O_	_O_	_O_
3. CONTINUING CALIBRATIONS	_O_	_O_	_O_	_O_
4. FIELD BLANKS(F=NOT APPLICABLE)	_F_	_F_	_F_	_F_
5. LABORATORY BLANKS	_X_	_O_	_O_	_O_
6. ICS	_O_			
7. LCS	_O_	_O_		
8. DUPLICATE ANALYSIS	_O_	_O_	_O_	_O_
9. MATRIX SPIKE	_Z_	_Z_	_O_	_O_
10. MSA		_O_		
11. SERIAL DILUTION	_M_			
12. SAMPLE VERIFICATION	_O_	_O_	_O_	_O_
13. REGIONAL QC(F-NOT APPLICABLE)	_F_	_F_	_F_	_F_
14. OVERALL ASSESSMENT	_Z_	_Z_	_O_	_O_

O = No problems or minor problems that do not affect data usability
X = No more than about 5% of the data points are qualified as either estimated or unusable.
M = More than about 5% of the data points are qualified as estimated.
Z = More than about 5% of the data points are qualified as unusable.
A = DPO action requested; use in conjunction with one of the above codes.

DPO ACTION ITEMS: _____

AREAS OF CONCERN: Documentation attached. (See following page).

WESTON SM

INORGANIC REGIONAL DATA ASSESSMENT SUMMARY

NOTES

1. The interference check sample (ICSA) for the Cd, Cr, and Zn analytes were high, however no data was qualified due to low interferent levels in the samples. (See Appendix C, pages 1-2).

2. The AA data for the aqueous samples was given an "M" qualifier in the overall assessment category due to several out of control analytical spike recoveries requiring the data qualier codes "UL" and "K".

3. The Pb post-digestion spike results for samples DT3727 and DT3730 were over the calibration range. The samples should have been diluted and reran so the spikes would not have exceeded the highest standard.

APPENDIX C

SUPPORT DOCUMENTATION

U.S. EPA - CLP

4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: DE DNREC:Div of Water Res Contract: DNREC:DAWM

Lab Code: DE023 Case No.: SAS No.: SDG No.: DT3719

ICP ID Number: I-98-1004 ICS Source: EPA-UNLV

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	Initial Found %R	Final Found Sol. A	Final Found Sol. AB	Final Found %R
Aluminum	511000	508000	570735	546830.0	107.6	585515	556745.0	109.6
Antimony								
Arsenic								
Barium		483	-6	483.6	100.1	-4	471.5	97.6
Beryllium		474	-3	397.5	83.9	-3	386.1	81.5
Cadmium		909	(33)	884.3	97.3	(33)	828.5	91.1
Calcium	476000	470000	509756	500839.0	106.6	511636	499797.0	106.3
Chromium		513	(37)	491.5	95.8	(36)	476.5	92.9
Cobalt		478	3	468.7	98.1	1	462.4	96.7
Copper		534	-2	484.8	90.8	-4	468.7	87.8
Iron	219000	211000	245928	238388.0	113.0	237362	236394.0	112.0
Lead		4850	-245	4450.3	91.8	-38	4227.2	87.2
Magnesium	513000	513000	520193	502989.0	98.0	507827	499709.0	97.4
Manganese		470	6	427.8	91.0	6	422.8	90.0
Mercury								
Nickel		916	-1	888.5	97.0	-16	854.1	93.2
Potassium								
Selenium								
Silver		993	-3	983.8	99.1	-7	990.0	99.7
Sodium			3244	3539.2	0.0	3165	3104.5	0.0
Thallium								
Vanadium		475	6	461.9	97.2	5	446.6	94.0
Zinc		973	(18)	884.4	90.9	(17)	843.3	86.7

U.S. EPA - CLP

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ICP INTERFERENCE CHECK SAMPLE

Lab Name: DE DNREC:Div of Water Res Contract: DNREC:DAWM

Lab Code: DE023 Case No.: SAS No.: SDG No.: DT3719

ICP ID Number: I-98-1004 ICS Source: EPA-UNLV

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	Initial Found %R	Final Found Sol. A	Final Found Sol. AB	Final Found %R
Aluminum	511000	508000						
Antimony								
Arsenic								
Barium		483						
Beryllium		474	-4	467.4	98.6	-4	451.3	95.2
Cadmium		909	(37)	922.9	101.5	(28)	913.9	100.5
Calcium	476000	470000						
Chromium		513						
Cobalt		478						
Copper		534						
Iron	219000	211000						
Lead		4850						
Magnesium	513000	513000						
Manganese		470	5	453.9	96.6	5	424.9	90.4
Mercury								
Nickel		916						
Potassium								
Selenium								
Silver		993						
Sodium								
Thallium								
Vanadium		475						
Zinc		973						

U.S. EPA - CLP

5B

POST DIGEST SPIKE SAMPLE RECOVERY

EPA SAMPLE NO

ORIGINAL (Red) DT371 22A

Lab Name: DE DNREC:Div of Water Res Contract: DNREC:DAWM

Lab Code: DE023 Case No.: SAS No.: SDG No.: DT371

Matrix (soil/water): WATER Level (low/med):

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium		53.06		4.37	B	50.0	97.4		P
Calcium									NR
Chromium									NR
Cobalt									NR
Cooper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

U.S. EPA - CLP

(Red)

5B

POST DIGEST SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

DT3732A

Lab Name: DE DNREC:Div of Water Res Contract: DNREC:DAWM

Lab Code: DE023 Case No.: SAS No.: SDG No.: DT371

Matrix (soil/water): SOIL Level (low/med):

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium		54.01		3.29	B	50.0	101.4		P
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION III
CENTRAL REGIONAL LABORATORY
839 BESTGATE ROAD
ANNAPOLIS, MARYLAND 21401
(301) 266-9180

DATE :February 2, 1990

SUBJECT: Asbestos Data Validation for the Ametek, Inc. Site
SAS 4970C Task 2

FROM :Theresa A. Simpson TAS
Region III ESAT DPO (3ES23)

TO :Paul Racette
Regional Project Manager (3HW13)

THRU : Patricia J. Krantz, Chief TAS for
Quality Assurance Branch (3ES23)

Attached is the asbestos data review for the Ametek, Inc. Site (SAS 4970C Task 2) completed by the Region III Environmental Services Assistance Team (ESAT) contractor under the direction of Region III ESD.

If you have any questions regarding this review, please call me.

Attachment

cc: Brad Smith, DE DNREC

TID File: 03900119 Task 1210

WESTON
MANAGERS DESIGNERS/CONSULTANTS
2568A RIVA ROAD
SUITE 300
ANNAPOLIS, MD 21401
PHONE: 301-266-9887

DATE: 31 JANUARY 1990

SUBJECT: ASBESTOS DATA VALIDATION FOR SAS CASE 4970C TASK 2
SITE: AMETEK, INC.

FROM: MARSHA BURRELL MAB
SENIOR DATA REVIEWER

DOUG MCINNES DJM
SENIOR DATA REVIEWER

TO: TERRY SIMPSON
ESAT DEPUTY PROJECT OFFICER

THRU: RICHARD D. DRESSER RDD
ESAT TEAM MANGER

OVERVIEW

SAS Case 4970C Task 2 consisted of eight (8) water samples to be analyzed for asbestos content. This set included one (1) field duplicate pair. The samples were analyzed using "Interim Method for the Determination of Asbestos in Water" (publication 600/4-80-005) and EPA 40 CFR part 763, " Interim TEM Analytical Method". The samples were analyzed as a Contract Laboratory Program (CLP) Special Analytical Service (SAS).

SUMMARY

The TEM data reviewed for this set of water samples meet the requirements of the SAS request. No problems occurred which would qualify the data.

NOTES

The following documentation was submitted as part of the data package: analytical results; energy dispersive x-ray spectroscopy (EDXS) profiles; reference EDXS profiles; raw data; calculation pages; NBS Standard Reference Material 8410 (Chrysotile fiber and trace amphobile fibers); and, reference EDXS spectra for all asbestos types, various elements, and compounds such as gypsum and clay. Calculations for the camera constant and magnification checks are also included.

Samples 4970C Task 2-04 and 4970C Task 2-05 were a field duplicate pair. Asbestos fibers were identified at the detection limit for each sample. Sample 4970C Task 2-04 was identified as Chrysotile and sample 49970C Task 2-05 was identified as Actinolite.

INFORMATION REGARDING REPORT CONTENT

These data were reviewed according to the original SAS request documents which accompanied the data sets to be reviewed.

ATTACHMENTS

TABLE I	DATA SUMMARY FORM
APPENDIX A	RESULTS REPORTED BY LABORATORY
APPENDIX B	DPO REPORT

MB001A09.ATA

TABLE 1

DATA SUMMARY FORM: ASBESTOS

Site Name: Ametek, Inc.
SAS #: 4970C Task2

Sample Identification	Location	Detection Limit (MFL)*	Concentration (MFL)*	Asbestos Type(s) Identified
4970C Task 2-01	AM-2	0.040	0.040	Chrysotile
4970C Task 2-02	AM-3	0.016	0.064	Chrysotile, Actinolite
4970C Task 2-03	AM-4	0.040	0.040	Chrysotile
4970C Task 2-04	AM-5	0.040	0.040	Chrysotile
4970C Task 2-05 (Duplicate of 4970C Task 2-04)	AM-5	0.044	0.044	Actinolite
4970C Task 2-06	AM-7	0.050	<0.050	
4970C Task 2-07	AM-9	0.044	0.044	Tremolite
4970C Task 2-08	AM-10	0.044	0.044	Chrysotile

* MFL = Millions Fibers per Liter

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Appendix A

RESULTS REPORTED BY LABORATORY

Name SMO/EPA/SAS 4970-C-02	Sample Analysis Date December 4, 1989
EPA Case No. 4970 C Task 2	Vol of Water Sampled (ml) 100 ml
EPA Sample No. 4970 C Task 2-01	Grid Opening Area (mm^2) 0.012
Lab Sample No. 890057-349	Screen Magnification 19000X

	Count
TOTAL NUMBER OF ASBESTOS STRUCTURES (MSL)	
Chrysotile	0.040
Amphibole	0.000
Crocidolite	—
Tremolite	—
Amosite	—
Anthophyllite	—
Actinolite	—
1.1 Total Number of Asbestos Fibers (MFL)	0.040
1.1.1 Total Chrysotile Fibers (MFL)	0.040
Fiber Length: Range (microns)	0.20
Fiber Diameter: Range (microns)	0.05
Aspect Ratio: Range	4 to 1
Fibers ≤ 5um/Fibers > 5um	< 5 um
1.1.2 Total Amphibole Fibers (MFL)*	0.000
Fiber Length: Range (microns)	—
Fiber Diameter: Range (microns)	—
Aspect Ratio: Range	—
Fibers ≤ 5um/Fibers > 5um	—
1.2 Total Number of Asbestos Bundles (MBL)**	0.000
1.3 Total Number of Asbestos Clusters/Clumps (MCL)**	0.000
1.4 Total Number of Asbestos Matrix/Debris (MML)**	0.000

* Specify amphibole type
** Specify asbestos type

MSL = million structures per liter
MFL = million fibers per liter
MBL = million bundles per liter
MCL = million clusters/clumps per liter
MML = million matrix/debris per liter

Name SMO/EPA/SAS 4970-C-2	Sample Analysis Date December 4, 1989
EPA Case No. 4970 C Task 2	Vol of Water Sampled (ml) 250.
EPA Sample No. 4970 C Task 2-02	Grid Opening Area (mm^2) 0.012
Lab Sample No. 890057-350	Screen Magnification 19000X

	Count
TOTAL NUMBER OF ASBESTOS STRUCTURES (MSL)	
Chrysotile	0.032
Amphibole	0.032
Crocidolite	—
Tremolite	—
Amosite	—
Anthophyllite	—
Actinolite	0.032
1.1 Total Number of Asbestos Fibers (MFL)	0.048
1.1.1 Total Chrysotile Fibers (MFL)	0.016
Fiber Length: Range (microns)	0.85-0.90
Fiber Diameter: Range (microns)	0.05-0.10
Aspect Ratio: Range	9:1 and 17:1
Fibers ≤ 5um/Fibers > 5um	< 5 um
1.1.2 Total Amphibole Fibers (MFL)*	0.032 Actinolite
Fiber Length: Range (microns)	0.6-2.0
Fiber Diameter: Range (microns)	0.10-1.5
Aspect Ratio: Range	6:1 and 13:1
Fibers ≤ 5um/Fibers > 5um	< 5 um
1.2 Total Number of Asbestos Bundles (MBL)**	0.000
1.3 Total Number of Asbestos Clusters/Clumps (MCL)**	0.000
1.4 Total Number of Asbestos Matrix/Debris (MML)**	0.016 Chrysotile

* Specify amphibole type
** Specify asbestos type

MSL = million structures per liter
MFL = million fibers per liter
MBL = million bundles per liter
MCL = million clusters/clumps per liter
MML = million matrix/debris per liter

Name SMO/EPA/SAS 4970-C-2	Sample Analysis Date December 6, 1989
EPA Case No. 4970 C Task 2	Vol of Water Sampled (ml) 100
EPA Sample No. 4970 C Task 2-03	Grid Opening Area (mm^2) 0.012
Lab Sample No. 890057-351	Screen Magnification 19000X

	Count
TOTAL NUMBER OF ASBESTOS STRUCTURES (MSL)	
Chrysotile	0.040
Amphibole	0.000
Crocidolite	—
Tremolite	—
Amosite	—
Anthophyllite	—
Actinolite	—
1.1 Total Number of Asbestos Fibers (MFL)	0.040
1.1.1 Total Chrysotile Fibers (MFL)	0.040
Fiber Length: Range (microns)	1.0 um
Fiber Diameter: Range (microns)	0.1
Aspect Ratio: Range	10 to 1
Fibers ≤ 5um/Fibers > 5um	< 5 um
1.1.2 Total Amphibole Fibers (MFL)*	0.000
Fiber Length: Range (microns)	—
Fiber Diameter: Range (microns)	—
Aspect Ratio: Range	—
Fibers ≤ 5um/Fibers > 5um	—
1.2 Total Number of Asbestos Bundles (MBL)**	0.000
1.3 Total Number of Asbestos Clusters/Clumps (MCL)**	0.000
1.4 Total Number of Asbestos Matrix/Debris (MML)**	0.000

* Specify amphibole type
** Specify asbestos type

MSL = million structures per liter
MFL = million fibers per liter
MBL = million bundles per liter
MCL = million clusters/clumps per liter
MML = million matrix/debris per liter

Name SMO/EPA/SAS 4970-C-2
EPA Case No. 4970 C Task 2
EPA Sample No. 4970 C Task 2-04
Lab Sample No. 890057-352

Sample Analysis Date December 7 1989
Vol of Water Sampled (ml) 100
Grid Opening Area (mm^2) 0.012
Screen Magnification 19000X

	Count
TOTAL NUMBER OF ASBESTOS STRUCTURES (MSL)	
Chrysotile	0.040
Amphibole	0.000
Crocidolite	—
Tremolite	—
Amosite	—
Anthophyllite	—
Actinolite	—
1.1 Total Number of Asbestos Fibers (MFL)	0.000
1.1.1 Total Chrysotile Fibers (MFL)	—
Fiber Length: Range (microns)	—
Fiber Diameter: Range (microns)	—
Aspect Ratio: Range	—
Fibers ≤ 5um/Fibers > 5um	—
1.1.2 Total Amphibole Fibers (MFL)*	0.000
Fiber Length: Range (microns)	—
Fiber Diameter: Range (microns)	—
Aspect Ratio: Range	—
Fibers ≤ 5um/Fibers > 5um	—
1.2 Total Number of Asbestos Bundles (MBL)**	0.000
1.3 Total Number of Asbestos Clusters/Clumps (MCL)**	0.000
1.4 Total Number of Asbestos Matrix/Debris (MML)**	0.040 Chrysotile

* Specify amphibole type
** Specify asbestos type

MSL = million structures per liter
MFL = million fibers per liter
MBL = million bundles per liter
MCL = million clusters/clumps per liter
MML = million matrix/debris per liter

Name SMO/EPA/SAS 4970-C-2	Sample Analysis Date December 7 1989
EPA Case No. 4970 C Task 2	Vol of Water Sampled (ml) 75
EPA Sample No. 4970 C Task 2-05	Grid Opening Area (mm^2) 0.012
Lab Sample No. 890057-353	Screen Magnification 19000X

	Count
TOTAL NUMBER OF ASBESTOS STRUCTURES (MSL)	
Chrysotile	0.000
Amphibole	0.044
Crocidolite	—
Tremolite	—
Amosite	—
Anthophyllite	—
Actinolite	0.044
1.1 Total Number of Asbestos Fibers (MFL)	0.044
1.1.1 Total Chrysotile Fibers (MFL)	—
Fiber Length: Range (microns)	—
Fiber Diameter: Range (microns)	—
Aspect Ratio: Range	—
Fibers ≤ 5um/Fibers > 5um	—
1.1.2 Total Amphibole Fibers (MFL)*	0.044 Actinolite
Fiber Length: Range (microns)	2.75
Fiber Diameter: Range (microns)	0.35
Aspect Ratio: Range	8 to 1
Fibers ≤ 5um/Fibers > 5um	< 5 um
1.2 Total Number of Asbestos Bundles (MBL)**	0.000
1.3 Total Number of Asbestos Clusters/Clumps (MCL)**	0.000
1.4 Total Number of Asbestos Matrix/Debris (MML)**	0.000

* Specify amphibole type
** Specify asbestos type

MSL = million structures per liter
MFL = million fibers per liter
MBL = million bundles per liter
MCL = million clusters/clumps per liter
MML = million matrix/debris per liter

Name SMO/EPA/SAS 4970-C-2	Sample Analysis Date December 7 1989
EPA Case No. 4970 C Task 2	Vol of Water Sampled (ml) 50 ml
EPA Sample No. 4970 C Task 2-06	Grid Opening Area (mm^2) 0.012
Lab Sample No. 890057-354	Screen Magnification 19000X

	Count
TOTAL NUMBER OF ASBESTOS STRUCTURES (MSL)	
Chrysotile	0.000
Amphibole	0.000
Crocidolite	—
Tremolite	—
Amosite	—
Anthophyllite	—
Actinolite	—
1.1 Total Number of Asbestos Fibers (MFL)	0.000
1.1.1 Total Chrysotile Fibers (MFL)	—
Fiber Length: Range (microns)	—
Fiber Diameter: Range (microns)	—
Aspect Ratio: Range	—
Fibers ≤ 5um/Fibers > 5um	—
1.1.2 Total Amphibole Fibers (MFL)*	0.000
Fiber Length: Range (microns)	—
Fiber Diameter: Range (microns)	—
Aspect Ratio: Range	—
Fibers ≤ 5um/Fibers > 5um	—
1.2 Total Number of Asbestos Bundles (MBL)**	0.000
1.3 Total Number of Asbestos Clusters/Clumps (MCL)**	0.000
1.4 Total Number of Asbestos Matrix/Debris (MML)**	0.000

* Specify amphibole type
** Specify asbestos type

MSL = million structures per liter
MFL = million fibers per liter
MBL = million bundles per liter
MCL = million clusters/clumps per liter
MML = million matrix/debris per liter

Name SMO/EPA/SAS 4970-C-2	Sample Analysis Date December 7 1989
EPA Case No. 4970 C Task 2	Vol of Water Sampled (ml) 75
EPA Sample No. 4970 C Task 2-07	Grid Opening Area (mm^2) 0.012
Lab Sample No. 890057-355	Screen Magnification 19000X

	Count
TOTAL NUMBER OF ASBESTOS STRUCTURES (MSL)	
Chrysotile	0.000
Amphibole	0.044
Crocidolite	—
Tremolite	0.044
Amosite	—
Anthophyllite	—
Actinolite	—
1.1 Total Number of Asbestos Fibers (MFL)	0.044
1.1.1 Total Chrysotile Fibers (MFL)	0.000
Fiber Length: Range (microns)	—
Fiber Diameter: Range (microns)	—
Aspect Ratio: Range	—
Fibers ≤ 5um/Fibers > 5um	—
1.1.2 Total Amphibole Fibers (MFL)*	0.044
Fiber Length: Range (microns)	0.55
Fiber Diameter: Range (microns)	0.10
Aspect Ratio: Range	5 to 1
Fibers ≤ 5um/Fibers > 5um	< 5 um
1.2 Total Number of Asbestos Bundles (MBL)**	0.000
1.3 Total Number of Asbestos Clusters/Clumps (MCL)**	0.000
1.4 Total Number of Asbestos Matrix/Debris (MML)**	0.000

* Specify amphibole type
** Specify asbestos type

MSL = million structures per liter
MFL = million fibers per liter
MBL = million bundles per liter
MCL = million clusters/clumps per liter
MML = million matrix/debris per liter

ORIGINAL

Name SMO/EPA/SAS 4970-C-2
EPA Case No. 4970 C Task 2
EPA Sample No. 4970 C Task 2-08
Lab Sample No. 890057-356

Sample Analysis Date December 10 1989
Vol of Water Sampled (ml) 75
Grid Opening Area (mm^2) 0.012
Screen Magnification 19000X

	Count
TOTAL NUMBER OF ASBESTOS STRUCTURES (MSL)	
Chrysotile	0.044
Amphibole	0.000
Crocidolite	—
Tremolite	—
Amosite	—
Anthophyllite	—
Actinolite	—
1.1 Total Number of Asbestos Fibers (MFL)	0.044
1.1.1 Total Chrysotile Fibers (MFL)	0.044
Fiber Length: Range (microns)	1.25
Fiber Diameter: Range (microns)	0.05
Aspect Ratio: Range	25 to 1
Fibers ≤ 5um/Fibers > 5um	< 5 um
1.1.2 Total Amphibole Fibers (MFL)*	0.000
Fiber Length: Range (microns)	—
Fiber Diameter: Range (microns)	—
Aspect Ratio: Range	—
Fibers ≤ 5um/Fibers > 5um	—
1.2 Total Number of Asbestos Bundles (MBL)**	0.000
1.3 Total Number of Asbestos Clusters/Clumps (MCL)**	0.000
1.4 Total Number of Asbestos Matrix/Debris (MML)**	0.000

* Specify amphibole type
** Specify asbestos type

MSL = million structures per liter
MFL = million fibers per liter
MBL = million bundles per liter
MCL = million clusters/clumps per liter
MML = million matrix/debris per liter

WESTON SM

Appendix B

DPO REPORT

WESTON SM

DPO: FYI Region III

ASBESTOS REGIONAL DATA ASSESSMENT SUMMARY

SAS No: 4970C - Task 2
No. of Samples: 8
Matrix: Water
Method: Interim Method for Determining Asbestos in Water

Laboratory: ATEC
Data User: Charles Sands
Review Completion: January 24, 1990

Reviewer: ESAT

		Asbestos
1.	Blank Evaluation	O
2.	Duplicate	O
3.	LCS (NBS Supplied)	O
4.	Instrument Checks o TEM Calibration (gold standard) o Magnification Calibration o Camera Constant	O
5.	OVERALL ASSESSMENT	O

O = little or no problems that affect data usability

WESTON SM

DPO: FYI

Region III

ASBESTOS REGIONAL DATA ASSESSMENT SUMMARY

SAS No: 4970C - Task 2
No. of Samples: 8
Matrix: Water
Method: Interim Method for Determinating Asbestos in Water

Laboratory: ATEC
Data User: Charles Sands
Review Completion: January 24, 1990

Reviewer: ESAT

		Asbestos
1.	Blank Evaluation	O
2.	Duplicate	O
3.	LCS (NBS Supplied)	O
4.	Instrument Checks o TEM Calibration (gold standard) o Magnification Calibration o Camera Constant	O
5.	OVERALL ASSESSMENT	O

O = little or no problems that affect data usability

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
CENTRAL REGIONAL LABORATORY
839 BESTGATE ROAD
ANNAPOLIS, MARYLAND 21401
(301) 266-9180

DATE : February 12, 1990

SUBJECT: Asbestos Data Validation for the Ametek, Inc. Site
SAS 4970C Task 1

FROM : Theresa A. Simpson TAS
Region III ESAT DPO (3ES23)

TO : Paul Racette
Regional Project Manager (3HW13)

THRU : Patricia J. Krantz, Chief TAS for
Quality Assurance Branch (3ES23)

Attached is the asbestos data review for the Ametek, Inc. Site (SAS 4970C Task 1) completed by the Region III Environmental Services Assistance Team (ESAT) contractor under the direction of Region III ESD.

If you have any questions regarding this review, please call me.

Attachment

cc: Brad Smith DNRC

TID File: 03900119 Task 1231

WESTON MANAGERS DESIGNERS CONSULTANTS
2568A RIVA ROAD
SUITE 300
ANNAPOLIS, MD 21401
PHONE: 301-266-9887

DATE: 7 JANUARY 1990

SUBJECT: ASBESTOS DATA VALIDATION FOR SAS CASE 4970C TASK I
SITE: AMETEK, INC.

FROM: MARSHA BURRELL mjb
SENIOR DATA REVIEWER

DOUG MCINNES DSM
SENIOR DATA REVIEWER

TO: TERRY SIMPSON
ESAT DEPUTY PROJECT OFFICER

THRU: RICHARD D. DRESSER RDD
ESAT TEAM MANGER

OVERVIEW

SAS Case 4970C Task I consisted of eleven (11) building material samples to be analyzed for asbestos content. This set included one (1) field duplicate pair. The samples were analyzed using "Interim Method for the Determination of Asbestos in Bulk Insulation Samples" (publication 600/M4-82-020). The samples were analyzed as a Contract Laboratory Program (CLP) Special Analytical Service (SAS).

SUMMARY

The Polarized Light Microscope (PLM) data for the set of building material samples met the requirements of the SAS request. No problems occurred that would qualify the data.

NOTES

The following documentation was submitted as part of the data package: analytical results; bench data sheets for PLM; and, point counting worksheets. The daily checklist for the Polarized Light Microscope was also included.

Samples 4970C Task 1-07 and 4970C Task 1-08 are a field duplicate pair. Sample 4970C Task 1-07 was identified as containing <1% Chrysotile and sample 4970C Task 1-08 was identified as having "No Asbestos Detected".

INFORMATION REGARDING REPORT CONTENT

These data were reviewed according to the original SAS request documents for sample analysis which accompanied the data sets to be reviewed.

ATTACHMENTS

TABLE I	DATA SUMMARY FORM
APPENDIX A	RESULTS REPORTED BY LABORATORY
APPENDIX B	DPO REPORT

MB001A10.AA2

TABLE 1

DATA SUMMARY FORM: ASBESTOS

Site Name: Ametek, Inc.
SAS #: 4970C Task I

Sample Identification	Location	Asbestos Content %	Type
4970C Task 1-01	AM-6	No Asbestos Detected	
4970C Task 1-02	AM-8	No Asbestos Detected	
4970C Task 1-03	AM-10	No Asbestos Detected	
4970C Task 1-04	AM-12	No Asbestos Detected	
4970C Task 1-05	AM-13	No Asbestos Detected	
4970C Task 1-06	AM-14	No Asbestos Detected	
4970C Task 1-07	AM-15	< 1%	Chrysotile
4970C Task 1-08 (duplicate of 4970C Task 1-07	AM-15	No Asbestos Detected	
4970C Task 1-09	AM-16	1%	Chrysotile
4970C Task 1-10	AM-17	1%	Chrysotile
4970C Task 1-11	AM-18	2%	Chrysotile

WESTON SM

Appendix A

RESULTS REPORTED BY LABORATORY

KEMRON Environmental Services, Inc.

16550 Highland Road
Baton Rouge, LA 70810
(504) 293-8650

BULK SAMPLE ANALYSIS
EPA METHOD 600/M4 82-020

DATE: 12/20/89 CASE NO.: 4970-C

CLIENT: EPA Region III SDG NO.: 4970C-01

DATE RECEIVED: 10/27/89 ANALYST: K. McCarroll

DATE ANALYZED: 11/09/89

CLIENT'S SAMPLE ID: 4970C-01

KEMRON SAMPLE ID: B91017001A

Gross Visual Description: Brown, granular

Asbestos Minerals:	Estimated Percentage:
1. Chrysotile	
2. Amosite	
3. Crocidolite	
4. Anthophyllite	
5. Tremolite/Actinolite	
Asbestos Total:	0

Non-Asbestos Fibrous Material:

1. Cellulose	4%

Non-Fibrous Material:

1. Binder	96%
Total:	100%

Comments:

KEMRON Environmental Services, Inc.

16550 Highland Road
Baton Rouge, LA 70810
(504) 293-8650

BULK SAMPLE ANALYSIS
EPA METHOD 600/M4 82-020

DATE: 12/20/89 CASE NO.: 4970-C

CLIENT: EPA Region III SDG NO.: 4970C-01

DATE RECEIVED: 10/27/89 ANALYST: K. McCarroll

DATE ANALYZED: 11/09/89

CLIENT'S SAMPLE ID: 4970C-02

KEMRON SAMPLE ID: B91017002A

Gross Visual Description: Brown, granular

Asbestos Minerals:	Estimated Percentage:
1. Chrysotile	
2. Amosite	
3. Crocidolite	
4. Anthophyllite	
5. Tremolite/Actinolite	
Asbestos Total:	0

Non-Asbestos Fibrous Material:

1. Synthetic Fibers	3%

Non-Fibrous Material:

1. Binder	97%
Total:	100%

Comments:

KEMRON Environmental Services, Inc.

16550 Highland Road
Baton Rouge, LA 70810
(504) 293-8650

BULK SAMPLE ANALYSIS
EPA METHOD 600/M4 82-020

DATE: 12/20/89 CASE NO.: 4970-C

CLIENT: EPA Region III SDG NO.: 4970C-01

DATE RECEIVED: 10/27/89 ANALYST: K. McCarroll

DATE ANALYZED: 11/09/89

CLIENT'S SAMPLE ID: 4970C-03

KEMRON SAMPLE ID: B91017003A

Gross Visual Description: Brown, granular

Asbestos Minerals:	Estimated Percentage:
1. Chrysotile	
2. Amosite	
3. Crocidolite	
4. Anthophyllite	
5. Tremolite/Actinolite	
Asbestos Total:	0

Non-Asbestos Fibrous Material:

1. Cellulose	6%

Non-Fibrous Material:

1. Binder	94%
Total:	100%

Comments:

ORIGINAL (Red)

KEMRON Environmental Services, Inc.

16550 Highland Road
Baton Rouge, LA 70810
(504) 293-8650

BULK SAMPLE ANALYSIS
EPA METHOD 600/M4 82-020

DATE: 12/20/89 CASE NO.: 4970-C

CLIENT: EPA Region III SDG NO.: 4970C-01

DATE RECEIVED: 10/27/89 ANALYST: K. McCarroll

DATE ANALYZED: 11/09/89

CLIENT'S SAMPLE ID: 4970C-04

KEMRON SAMPLE ID: B91017004A

Gross Visual Description: Brown, granular

Asbestos Minerals:	Estimated Percentage:
1. Chrysotile	
2. Amosite	
3. Crocidolite	
4. Anthophyllite	
5. Tremolite/Actinolite	
Asbestos Total:	0

Non-Asbestos Fibrous Material:

1. Cellulose	5%

Non-Fibrous Material:

1. Binder	95%
Total:	100%

KEMRON Environmental Services, Inc.

16550 Highland Road
Baton Rouge, LA 70810
(504) 293-8650

BULK SAMPLE ANALYSIS
EPA METHOD 600/M4 82-020

DATE: 12/20/89 CASE NO.: 4970-C

CLIENT: EPA Region III SDG NO.: 4970C-01

DATE RECEIVED: 10/27/89 ANALYST: K. McCarroll

DATE ANALYZED: 11/09/89

CLIENT'S SAMPLE ID: 4970C-05

KEMRON SAMPLE ID: B91017005A

Gross Visual Description: Brown, granular

Asbestos Minerals:	Estimated Percentage:
1. Chrysotile	
2. Amosite	
3. Crocidolite	
4. Anthophyllite	
5. Tremolite/Actinolite	
Asbestos Total:	0

Non-Asbestos Fibrous Material:

1. Cellulose	7%

Non-Fibrous Material:

1. Binder	93%
Total:	100%

Comments:

KEMRON Environmental Services, Inc.

16550 Highland Road
Baton Rouge, LA 70810
(504) 293-8650

BULK SAMPLE ANALYSIS
EPA METHOD 600/M4 82-020

DATE: 12/20/89 CASE NO.: 4970-C

CLIENT: EPA Region III SDG NO.: 4970C-01

DATE RECEIVED: 10/27/89 ANALYST: K. McCarroll

DATE ANALYZED: 11/09/89

CLIENT'S SAMPLE ID: 4970C-06

KEMRON SAMPLE ID: B91017006A

Gross Visual Description: Brown, granular

Asbestos Minerals:	Estimated Percentage:
1. Chrysotile	
2. Amosite	
3. Crocidolite	
4. Anthophyllite	
5. Tremolite/Actinolite	
Asbestos Total:	0

Non-Asbestos Fibrous Material:

1. Cellulose	1%

Non-Fibrous Material:

1. Binder	99%
Total:	100%

Comments:

KEMRON Environmental Services, Inc.

16550 Highland Road
Baton Rouge, LA 70810
(504) 293-8650

BULK SAMPLE ANALYSIS
EPA METHOD 600/M4 82-020

DATE: 12/20/89 CASE NO.: 4970-C

CLIENT: EPA Region III SDG NO.: 4970C-01

DATE RECEIVED: 10/27/89 ANALYST: K. McCarroll

DATE ANALYZED: 11/09/89

CLIENT'S SAMPLE ID: 4970C-07

KEMRON SAMPLE ID: B91017007A

Gross Visual Description: Brown, granular

Asbestos Minerals:	Estimated Percentage:
1. Chrysotile	.5
2. Amosite	
3. Crocidolite	
4. Anthophyllite	
5. Tremolite/Actinolite	
Asbestos Total:	0

Non-Asbestos Fibrous Material:	
1. Cellulose	1.5

Non-Fibrous Material:	
1. Binder	98%
Total:	100%

Comments: The sample is considered to be non-asbestos containing the calculation is based on point counting.

ORIGINAL (Red)

KEMRON Environmental Services, Inc.

16550 Highland Road
Baton Rouge, LA 70810
(504) 293-8650

BULK SAMPLE ANALYSIS
EPA METHOD 600/M4 82-020

DATE: 12/20/89 CASE NO.: 4970-C

CLIENT: EPA Region III SDG NO.: 4970C-01

DATE RECEIVED: 10/27/89 ANALYST: K. McCarroll

DATE ANALYZED: 11/09/89

CLIENT'S SAMPLE ID: 4970C-08

KEMRON SAMPLE ID: B91017008A

Gross Visual Description: Brown, granular

Asbestos Minerals:	Estimated Percentage:
1. Chrysotile	
2. Amosite	
3. Crocidolite	
4. Anthophyllite	
5. Tremolite/Actinolite	
Asbestos Total:	0

Non-Asbestos Fibrous Material:	
1. Cellulose	4

Non-Fibrous Material:	
1. Binder	96%
Total:	100%

Comments:

KEMRON Environmental Services, Inc.

16550 Highland Road
Baton Rouge, LA 70810
(504) 293-8650

BULK SAMPLE ANALYSIS
EPA METHOD 600/M4 82-020

DATE: 12/20/89 CASE NO.: 4970-C

CLIENT: EPA Region III SDG NO.: 4970C-01

DATE RECEIVED: 10/27/89 ANALYST: K. McCarroll

DATE ANALYZED: 11/09/89

CLIENT'S SAMPLE ID: 4970C-09

KEMRON SAMPLE ID: B91017009A

Gross Visual Description: Brown, granular

Asbestos Minerals:	Estimated Percentage:
1. Chrysotile	1
2. Amosite	
3. Crocidolite	
4. Anthophyllite	
5. Tremolite/Actinolite	
Asbestos Total:	1

Non-Asbestos Fibrous Material:	
1. Cellulose	3

Non-Fibrous Material:	
1. Binder	96%
Total:	100%

Comments:

KEMRON Environmental Services, Inc.

16550 Highland Road
Baton Rouge, LA 70810
(504) 293-8650

BULK SAMPLE ANALYSIS
EPA METHOD 600/M4 82-020

DATE: 12/20/89 CASE NO.: 4970-C

CLIENT: EPA Region III SDG NO.: 4970C-01

DATE RECEIVED: 10/27/89 ANALYST: K. McCarroll

DATE ANALYZED: 11/09/89

CLIENT'S SAMPLE ID: 4970C-10

KEMRON SAMPLE ID: B910170010A

Gross Visual Description: Brown, granular

Asbestos Minerals:	Estimated Percentage:
1. Chrysotile	1
2. Amosite	
3. Crocidolite	
4. Anthophyllite	
5. Tremolite/Actinolite	
Asbestos Total:	1

Non-Asbestos Fibrous Material:

1. Cellulose	5

Non-Fibrous Material:

1. Binder	94%
Total:	100%

Comments:

KEMRON Environmental Services, Inc.

16550 Highland Road
Baton Rouge, LA 70810
(504) 293-8650

BULK SAMPLE ANALYSIS
EPA METHOD 600/M4 82-020

DATE: 12/20/89 CASE NO.: 4970-C

CLIENT: EPA Region III SDG NO.: 4970C-01

DATE RECEIVED: 10/27/89 ANALYST: K. McCarroll

DATE ANALYZED: 11/09/89

CLIENT'S SAMPLE ID: 4970C-11

KEMRON SAMPLE ID: B910170011A

Gross Visual Description: Brown, granular

Asbestos Minerals:	Estimated Percentage:
1. Chrysotile	2
2. Amosite	
3. Crocidolite	
4. Anthophyllite	
5. Tremolite/Actinolite	
Asbestos Total:	2

Non-Asbestos Fibrous Material:	
1. Cellulose	6

Non-Fibrous Material:	
1. Binder	92%
Total:	100%

Comments:

WESTON SM

Appendix B

DPO REPORT

WESTON SM

DPO: FYI

Region III

ASBESTOS REGIONAL DATA ASSESSMENT SUMMARY

SAS No: 4970C - Task I
No. of Samples: 8
Matrix: Water
Method: Interim Method for Determining Asbestos in Bulk Insulation

Laboratory: ATEC
Data User: Charles Sands
Review Completion: January 26, 1990

Reviewer: ESAT

		Asbestos
1.	Blank Evaluation	O
2.	Duplicate	O
3.	LCS (NBS Supplied)	O
4.	Daily Polarized Light Microscope Checks o Polars Aligned o Center Stage, Objective o Koehler illumination	O
5.	OVERALL ASSESSMENT	O

O = little or no problems that affect data usability

VIII. TOXICOLOGICAL EVALUATION

VIII. TOXICOLOGICAL EVALUATION

Summary

Surface water and sediments of the Red Clay Creek and surface soil samples obtained from the Ametek, Inc. Site revealed trace to low levels of organic and inorganic pollutants and trace levels of asbestos.[1]

Trace to low levels of polynuclear aromatic hydrocarbons (PAHs) (up to 36,690 ug/kg) and phthalates were revealed in on-site soil and sediment samples.[1] Inadvertent ingestion of on-site soils by children appears to be unlikely due to the fact that the site is enclosed by a fence and security guards are posted at the entrances. PAHs are found in food, air, water and soil. PAHs are also indicative of compounds found in coal gas plant wastes and are constituents of creosote used in the manufacture of railroad ties.[2] PAHs have been classified by EPA as a Group B2-Probable Human Carcinogen.[3] Unless repeated and prolonged exposure occurs, no human health threat is expected.[3,4]

Polychlorinated biphenyls (PCBs) were reported in creek sediment at concentrations up to 560 ug/kg (NPDES 001).[1] PCBs are classified by EPA as a Group B2-Probable Human Carcinogen.[3] Manufacturing of PCBs was discontinued in the United States in 1976.[6] PCBs can be found in hydraulic fluids, transformers and capacitors. At the levels found PCBs do not pose a direct threat, however adverse impacts of the food chain may be possible. Consumption of fish (with PCB levels similar to levels found in sediment) may pose a 4.0×10^{-4} cancer risk in individuals consuming 6.5 grams of contaminated fish everyday for 70 years.[1,3]

Various inorganic contaminants were reported in surface water and on-site soil samples.[1] The concentration of contaminants revealed in the Red Clay Creek are not expected to pose a threat to human health from consumption of this water or from fish consumption.[5,7] The NPDES outfall 001 sample revealed iron (1,510 ug/l) at a level exceeding its Secondary Maximum Contaminant Level (SMCL) of 300 ug/l.[1,5] SMCL's are based on aesthetic qualities such as taste and odor rather than toxicity. However, iron was not confidently identified in downstream surface water samples.[1] Manganese (up to 206 ug/l) was also revealed at the NPDES outfall 001 at a level exceeding its SMCL of 50 ug/l.[1,5] It should be noted that the downstream surface water samples revealed manganese at levels of 45.9 ug/l and 45.1 ug/l.[1] Moreover, dilution would be expected to reduce this level at the surface water intake located 2.3 miles downstream.[8] This level could affect the palatability of the water but does not pose a human health threat.

Surface water samples from the Red Clay Creek revealed zinc (up to 201 ug/l) at levels exceeding its Ambient Water Quality Criteria (for protection of aquatic life in freshwater) of 47.0 ug/l (at low hardness).[1,7]

Several metals in on-site soil samples were reported in levels in excess of the estimated arithmetic mean levels normally detected in Eastern United States soils. The results are summarized in the following table. The data is expressed in mg/kg.[1,9]

Contaminants	On-site Soils	Estimated Arithmetic Mean
Arsenic	up to 34.1 (L)	7.4
Cadmium	up to 11.8	-----
Chromium	up to 54.3	52.0
Cobalt	149.0	9.2
Copper	up to 198.0	22.0
Iron	up to 83,000	25,000
Lead	up to 333	17.0
Magnesium	up to 5,050	4,600
Manganese	up to 1,140 (J)	640.0
Mercury	0.16	0.12
Nickel	up to 50.3	18.0
Zinc	up to 3,600	52.0

(L - Analyte present. Reported value may be biased low. Actual value is expected to be higher.)
(J - Analyte present. Reported value may not be accurate or precise.)

The reported levels of metals revealed in on-site soils are not of toxicological concern except for arsenic and lead.[1,3] Inadvertent ingestion of on-site soils by children appears to be unlikely due to the fact that the site is enclosed by a fence.[4] At one sample location an elevated level of lead (up to 333 mg/kg) was revealed.[1] An average soil level for lead in Delaware is 30 mg/kg.[9] Lead has been classified by EPA as a Group B2-Probable Human Carcinogen.[3] While there is no Reference Dose or Carcinogenic Potency Factor value for lead, any exposure to lead is not desirable.

Arsenic (up to a level of 34.1 mg/kg) was detected in on-site soils.[1] Arsenic has been classified by EPA as a Group A-Human Carcinogen.[3] It should be noted that the result for arsenic was flagged with a qualifier indicating the value was biased low and the actual value may be higher.[1]

Cyanide (1.4 mg/kg) was detected in a downstream sediment sample only. There is no reasonable exposure pathway for sediments.[1]

An on-site soil sample revealed asbestos up to 2%. It should be noted that a duplicate sample at this soil location contained only 1% asbestos, thus casting doubt on the confidence of these results.[1] Asbestos has been classified by EPA as a Group A-Human Carcinogen.[3] Currently, EPA has no guidance for asbestos in soil. However, 1% asbestos content is permissible in soils. No human health threat is expected.[10] Asbestos fibers may appear in water and air. The friable (airborne) forms of asbestos cause the greatest concern with regard to public health.[11]

References

1. DE DNREC CERCLA Branch. Ametek, Inc. Site Inspection Data, October, 1989.

2. U.S. EPA, 1980. Ambient Water Quality Criteria for Polynuclear Aromatic Hydrocarbons. EPA 440/5-80/069.

3. United States Environmental Protection Agency. April 1989. Health Effects Assessment Summary Tables. Office of Health and Environmental Assessment, Environmental Criteria and Assessment Office, Cincinnati, OH.

4. DE DNREC CERCLA Branch. Site Inspection Log Book - Ametek, Inc., Wilmington, DE. October 1989.

5. United States Environmental Protection Agency. April 5, 1989. Drinking Water Regulations and Health Advisories (Draft). Office of Drinking Water, Washington, D.C.

6. Sax, N.I. and Lewis, R.J. Sr., 1987. Hawley's Condensed Chemical Dictionary. Van Nostrand Reinhold Company, New York.

7. United States Environmental Protection Agency. May 1986. Quality Criteria for Water 1986. Office for Water Regulations and Standards, Washington, D.C.

8. Water Resources Agency for New Castle County, Delaware, 1980. Inventory of Public water Systems in New Castle County.

9. Shacklette, H.T. and J.G. Boerngen, 1984. Element Concentrations in Soils and Other Surficial Materials of the Conterminous United States. United States Geological Survey Professional Paper 1270.

10. Telephone conversation between Jamie Hackney, DE DNREC CERCLA Branch and Dawn A. Ioven, U.S. EPA, April 26, 1990.

11. Sittig, M., 1985. Handbook of Toxic and Hazardous Chemicals and Carcinogens. Noyes Publications, Park Ridge, New Jersey.

IX. APPENDICES

APPENDIX A

A Preliminary Assessment

of

Ametek, Inc.

PA/SI Cooperative Agreement Grant No. V-003350-01-0

Presented to: Kenneth R. Kryszczun, Chief
Site Investigation and Support Section
U.S. EPA Region III

Prepared by: Delaware Department of Natural Resources
and Environmental Control
Division of Air and Waste Management

Deborah P. Dewsbury, PA/SI Investigator
Brad L. Smith, PA/SI Coordinator
Joseph J. Hardman, P.E., Supervisor

DPD7045

Table of Contents

I. Introduction

Inquiry Source

The initial concern on the Ametek Inc./Haveg Division Site arose when a Preliminary Assessment entitled Tisdell Property - Haveg Drum Site revealed the presence of asbestos in an upstream sample of the Red Clay Creek. This sample indicated an offsite release was occurring from a property upstream from Tisdell isolating Ametek as a possible source.

General Summary

Ametek Inc. is a manufacturer of Haveg plastic pipe and joint fittings located on Greenbank Road approximately 1/4 mile south of Kirkwood Highway near Prices Corner. Currently this facility has four major processes: (1) the production of Haveg Material, a phenolic or furan resin and pharmaceutical grade talc; (2) the manufacturing of resin; (3) the production of insulation materials through a Siltemp process and (4) the manufacturing of pipes, parts, etc; fiberglass impregnated with resin. Recent RCRA inspection by Ellen Malenfant of Delaware DNREC on July 9,1986 stated no violations nor problems were encountered in their hazardous waste storage practices.

Prior to 1980, Ametek was involved with the application of asbestos and fiberglass on pipes, parts, etc for insulation needs. The control of fugitive asbestos and fiberglass dust was handled through a dust collection system involving hoods and baghouses. According to several memos by the Delaware DNREC Air Resources section, problems existed with this collection system including a documented release on January 24,1977 as result of a baghouse fire. In November 1980, Ametek was eliminated asbestos from their processes.

Recommendation

Based on the detection of asbestos in the upstream sample of Red Clay Creek and the documentation of asbestos use and possible release, Delaware DNREC PA/SI group recommended a medium priority site inspection be conducted at Ametek. This site inspection should include samples upstream, midstream and downstream of the Red Clay Creek, soil samples in the asbestos use area and other locations relating to the asbestos use.

II. Site History

ORIGINAL (Red)

Permits

RCRA Permit - EPA ID # DED 06 180 5487
Hazardous Waste Storage

DNREC Air Resources Permits - APC 81/266 - Siltemp Neutralizing Tank
APC 81/268 - Two Phenol Storage Tank
APC 81/269 - Five Autoclaves
APC 78/142 - Salt Tank
APC 81/272 - Eight HCL Siltemp Digester
APC 81/273 - Three Resin Batch Reactor
APC 81/273 - Formaldehyde Storage Tank
APC 81/302 - Press Area Baghouse
APC 81/500 - Briquette Forming Ventilation
APC 81/836 - Boiler No. 2
APC 82/123 - Mixer Area Baghouse
APC 82/274 - Acid Digesters
APC 82/698 - Vacuum Filter Beds
APC 82/697 - HCL Transfer Operations
APC 80/286 - Boiler No. 1
APC 80/398 - Two Metal Solvent Degreasers
APC 80/400 - Two Metal Solvent Degreasers
APC 80/402 - Two Metal Solvent Degreasers
APC 80/403 - Metal Solvent Degreaser
APC 80/1186 -Machine Shop Ventilation
APC 82/880 - Two HCL Storage Tanks
APC 84/482 - Lime Pneumatic Conveyer Baghouse
APC 84/483 - Lime Storage Silo Baghouse
APC 85/269 - Sandblast Cabinet

Site Owners

Ametek Inc./Haveg Division
900 Greenbank Road
Wilmington, De. 19808

Area Residents

[redacted] former employee of Ametek